

4-methyl-hexahydrophthalic anhydride. The polybasic acid anhydride is used in such an amount that 0.05-1.00 equivalent of the anhydride may be reacted with 1 equivalent of the hydroxy group in the above epoxy (meth)acrylate. The reaction temperature is 60-150°C, especially preferably 80-100°C.

The thermoplastic polymer (D) to use for the resin composition of the present invention will be described below.

For the thermoplastic polymer (D), a (meth)acryl resin, a polyester resin, a vinyl acetate resin, a vinylchloride vinylacetate copolymer, a polyurethane resin and polybutadiene for example can be used. The polymer includes the polymer or the copolymer of a monomer such as a C1-C8 alkyl (meth)acrylate that may have a substituent such as mono- or di-lower alkylamino group or hydroxy group, such as acrylic acid, methacrylic acid, methyl methacrylate, butyl methacrylate, 2-ethylhexyl methacrylate, lauryl methacrylate, ethyl acrylate, methyl acrylate, 2-hydroxyethyl methacrylate, 2-hydroxyethyl acrylate, 2-hydroxypropyl methacrylate, 2-hydroxypropyl acrylate, dimethylaminoethyl methacrylate, dimethylaminoethyl acrylate and etc.; a styrene compound that may have a lower alkyl substituent, such as styrene,  $\alpha$ -methylstyrene, vinyl toluene and etc.. N-vinylpyrrolidone, acrylamide and (meth)acrylonitrile; and the half-ester of styrene-maleic acid copolymer. These may be used alone or in

the combination of two or more. Of these thermoplastic polymers (D), some have carboxyl groups and the others do not have. The polymer having carboxyl groups is preferable. The copolymer of (meth)acrylic acid with a C1-C8 alkyl (meth)acrylate that may have a substituent such as hydroxy group is more preferable.

The component of (D) (the thermoplastic polymer) has preferably a weight-average molecular weight of 10,000-300,000. A weight-average molecular weight of less than 10,000 possibly makes it difficult for the component to form a film, while that of more than 300,000 possibly brings about a bad development. A carboxyl group content of the component (D) may be of 0% by mol, and preferably of 50% by mol or less. The content is preferably 3% by mol or more, more preferably of 5% by mol or more, further more preferably of 10% by mol or more and, as the case may be, 15% by mol or more. A carboxyl group content of more than 50% by mol possibly makes it difficult for the component to form a pattern. Therefore, the content is preferably 45% by mol or less, more preferably 35% by mol or less, and further more preferably 25% by mol or less. The carboxyl group content generally depends upon the rate of a carboxyl group-containing monomer used. Even if the rate is not clear, the carboxyl group content can be determined by a conventional method such as titration method and IR method. The component (D) is preferably soluble or swellable in an aqueous alkali solution.

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The reactive diluent (C-1) used in the present invention includes a C2-C6 aliphatic amide having vinyl and various kinds of (meth)acrylates. These may be used alone or in the combination of two or more.

The C2-C6 aliphatic amide having vinyl includes a N-vinylcyclic amide of 5-8 membered ring such as N-vinylpyrrolidone and N-vinylcaprolactone, and a (meth)acrylamide obtained by condensing a nitrogen-containing 4-6 membered heterocyclic compound with (meth)acrylic acid such as acroyl morpholine. Acroyl morpholine is preferable.

Various kinds of (meth)acrylates to use for the reactive diluent (C-1) are classified into a monofunctional(meth)acrylate compound and a polyfunctional(meth)acrylate compound.

The monofunctional(meth)acrylate compound to use for the reactive diluent (C-1) is a compound having one acrylate group, including a monoester of (meth)acrylic acid that may have substituent(s) with a C1-C10 aliphatic alcohol that may have substituent(s): phenoxyethyl (meth)acrylate, benzyl (meth)acrylate, cyclohexyl (meth)acrylate, phenyloxyethyl oxyethyl (meth)acrylate, isobornyl (meth)acrylate, 2-ethylhexyl (meth)acrylate, stearyl (meth)acrylate, tetrahydrofurfuryl (meth)acrylate, caprolactone denatured tetrahydrofurfuryl (meth)acrylate, lauryl (meth)acrylate, isodecyl (meth)acrylate, tridecyl (meth)acrylate,